IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended): A method for determining a nucleotide sequence of a single nucleic acid molecule ~~by single dye molecule detection~~, which comprises:

(a) immobilizing a nucleic acid molecule~~, or a primer which has a sequence complementary to a part of the sequence of the nucleic acid molecule,~~ onto the surface of a solid;

(b) annealing a primer~~, which has a sequence complementary to a part of the sequence of the nucleic acid molecule~~ to said nucleic acid molecule, wherein said primer has a sequence complementary to a part of a sequence of the nucleic acid molecule~~, or a nucleic acid molecule to the nucleic acid molecule or the primer, respectively~~;

(c) providing a solution which contains a DNA polymerase and only one type of dye-labeled dNTP, where N is A, T or U, G or C, or an RNA polymerase and only one type of dye-labeled NTP, where N is A, U, G or C, to said immobilized nucleic acid molecule, and allowing the ~~nucleotide~~ dye-labeled dNTP or NTP to react with the 3' end of said primer, whereby ~~a nucleotide~~ the dye-labeled dNTP or NTP, which forms a base-pair with a base in the nucleic acid molecule at ~~opposed to the reaction site~~ a position where the dye-labeled dNTP or NTP reacts with the 3' end of said primer and~~,~~ is bound to the primer by action of the polymerase;

(d) detecting a bound, dye-labeled dNTP or NTP;

(e) disrupting the dye molecule of the bound, dye-labeled dNTP or NTP;

(f) repeating (c) to (e) while changing the type of dye-labeled dNTP or NTP in turn, to sequentially bind dNTPs or NTPs which forms a base-pair with the nucleotides of the nucleic acid molecule; and

(g) determining a nucleotide sequence of the nucleic acid molecule based on the types of the sequentially bound dNTPs or NTPs.

Claim 2 (Original): The method of Claim 1, wherein said surface of a solid is the inner wall of a capillary.

Claim 3 (Previously Amended): The method of Claim 1, wherein (d) comprises optically detecting the dye molecule of said dye-labeled dNTP or NTP.

Claim 4 (Currently Amended): The method of Claim 1, wherein (d) comprises exciting dye molecules by irradiation of a laser beam resulting in a released fluorescence signal and detecting the thus released fluorescent signal.

Claim 5 (Original): The method of Claim 1, wherein said detection is performed using a confocal fluorescence microscope system.

Claim 6 (Currently Amended): The method of Claim 4 ~~1~~, wherein said ~~disruption of~~ disrupting the dye molecules in (e) ~~is performed by irradiation of~~ comprises irradiating with a laser beam stronger than the laser beam ~~that~~ in (d).

Claim 7 (Original): The method of Claim 1, wherein said dye is a fluorescent dye.

Claim 8 (Original): The method of Claim 1, wherein said dye-labeled dNTP is labeled with rhodamine, tetramethyl rhodamine (fluorescein) Rhodamine 6G, fluorescein isothiocyanate, or 4-fluoro-7-nitro-benzofurazon (Texas Red).

Claim 9 (Original): The method of Claim 1, wherein said dye-labeled NTP is labeled with rhodamine, tetramethyl rhodamine (fluorescein) Rhodamine 6G, fluorescein isothiocyanate, or 4-fluoro-7-nitro-benzofurazon (Texas Red).

Claim 10 (Currently Amended): The method of Claim 1, wherein said dNTP ~~and~~ or NTP is each labeled with the same dye.

Claim 11 (Original): The method of Claim 1, wherein said solution consists of a droplet in which an aqueous solution containing said dye-labeled dNTP or NTP, is entrapped within a hydrophobic liquid.

Claims 12-22 (Previously cancelled).

Claims 23-25 (Cancelled).

Claim 26 (New): A method for determining a nucleotide sequence of a nucleic acid, which comprises:

(a) immobilizing a primer onto the surface of a solid, wherein the primer comprises a sequence complementary to a part of a sequence in the nucleic acid molecule;

(b) annealing a nucleic acid molecule to the immobilized primer;

(c) providing a solution which contains a DNA polymerase and only one type of dye-labeled dNTP, where N is A, T or U, G or C, or an RNA polymerase and only one type of dye-labeled NTP, where N is A, U, G or C, to said immobilized primer, and allowing the dye-labeled dNTP or NTP to react with the 3' end of said primer, whereby the dye-labeled dNTP or NTP, which forms a base-pair with a base in the nucleic acid molecule at a position where the dye-labeled dNTP or NTP reacts with the 3' end of said primer and is bound to the primer by action of the polymerase;

(d) detecting a bound, dye-labeled dNTP or NTP;

(e) disrupting the dye molecule of the bound, dye-labeled dNTP or NTP;

(f) repeating (c) to (e) while changing the type of dye-labeled dNTP or NTP in turn, to sequentially bind dNTPs or NTPs which forms a base-pair with the nucleotides of the nucleic acid molecule; and

(g) determining a nucleotide sequence of the nucleic acid molecule based on the types of the sequentially bound dNTPs or NTPs.

Claim 27 (New): The method of Claim 26, wherein said surface of a solid is the inner wall of a capillary.

Claim 28 (New): The method of Claim 26, wherein (d) comprises optically detecting the dye molecule of said dye-labeled dNTP or NTP.

Claim 29 (New): The method of Claim 26, wherein (d) comprises exciting dye molecules by irradiation of a laser beam resulting in a released fluorescence signal and detecting the thus released fluorescent signal.

Claim 30 (New): The method of Claim 26, wherein said detection is performed using a confocal fluorescence microscope system.

Claim 31 (New): The method of Claim 29, wherein said disrupting the dye molecules in (e)-comprises irradiating with a laser beam stronger than the laser beam in (d).

Claim 32 (New): The method of Claim 26, wherein said dye is a fluorescent dye.

Claim 33 (New): The method of Claim 26, wherein said dye-labeled dNTP is labeled with rhodamine, tetramethyl rhodamine (fluorescein) Rhodamine 6G, fluorescein isothiocyanate, or 4-fluoro-7-nitro-benzofurazon (Texas Red).

Claim 34 (New): The method of Claim 26, wherein said dye-labeled NTP is labeled with rhodamine, tetramethyl rhodamine (fluorescein) Rhodamine 6G, fluorescein isothiocyanate, or 4-fluoro-7-nitro-benzofurazon (Texas Red).

Claim 35 (New): The method of Claim 26, wherein said dNTP or NTP is each labeled with the same dye.

Claim 36 (New): The method of Claim 1, wherein said solution consists of a droplet in which an aqueous solution containing said dye-labeled dNTP or NTP, is entrapped within a hydrophobic liquid.